UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,541	09/23/2003	Behnam Pourdeyhimi	297/185/2	4635

25297 7590 01/25/2007

JENKINS, WILSON, TAYLOR & HUNT, P. A.
3100 TOWER BLVD
SUITE 1200
DURHAM, NC 27707

EXAMINER	
GRAYSAY, TAMARA L	
ART UNIT	**PAPER NUMBER**
3636	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/669,541	POURDEYHIMI ET AL.	
	Examiner	Art Unit	
	Tamara L. Graysay	3636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *(3 pages)*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The replacement drawings were received on 27 October 2006.

The drawings are objected to by the Draftsperson. See the Notice of Draftsperson's Patent Drawing Review, form PTO-948.

The drawings are further objected to because of the following:

- They fail to comply with 37 CFR 1.84(h) and (u)(1) because FIGS. 13 and 23 comprise more than one figure that are not clearly separated from one another and not consecutively numbered.
- They fail to comply with 37 CFR 1.84(m) because solid black shading (FIGS. 13 and 23) is not permitted.
- They are illegible insofar as the shading used in FIG. 23 for "No Foam" and "Black" are indistinguishable.
- They are illegible insofar as the lines used in FIGS. 24-26 for "No Foam" and "Black" are indistinguishable.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. As mentioned in the previous Office action, the abstract of the disclosure is objected to because the patent is in the nature of an improvement in an old apparatus, process, product, or composition. Therefore, the abstract should include the technical disclosure of the improvement, such as the density of the filler, shape and orientation of the holes, etc. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dugan (US-3855132).

Claim 1: First, applicant's disclosure (at **4**:16-17) misinterprets the Dugan teaching of the criticality of the percentage void volume. Looking to Dugan at column **2**, lines 34-38, the percentage of void volume is <u>not critical</u> (*emphasis added*). Therefore, there is suggestion within Dugan itself to use a void volume other than 95percent in order to vary the water capacity of the filler. Dugan mentions that a 95 percent void volume and 10 pores per lineal inch is a suitable combination but does not exclude other void volumes or pore distribution. Therefore, the Dugan specification is not limited to the particular percent void volume and pores per lineal inch, but rather presents them as suitable. The disclosure of Dugan is directed to the teaching of a correlation between void volume and water capacity of the filler.

Second, looking to specification of the present application, there is no explicit or direct association of the claimed 10 to 70 percent void volume to any of the mentioned filler elements. In other words, the disclosed elements (type 1 fabric, type 2 fabric, type 3 fabric, yellow foam, black foam) are not explicitly mentioned as being within the range of 10 to 70 percent void volume. Further, the combinations (1, 2, 3, 1-2, 1-3, 2-3, 1-2-3, 1-Y, 2-Y, 3-Y, 1-2-Y, 1-3-Y, 2-3-Y, 1-2-3-Y, 1-B, 2-B, 3-B, 1-2-B, 1-3-B, 2-3-B, 1-2-3-B, 1-Y-B, 2-Y-B, 3-Y-B, 1-2-Y-B, 1-3-Y-B, 2-3-Y-B, 1-2-3-Y-B) are not explicitly mentioned as being within the range of 10 to 70 percent void volume.

Third, as a practical matter one could infer from the present application that a gutter filled only with foam having 1- to 75 percent void volume reads on the claim. Dugan teaches that there is a correlation between void volume and water capacity and that the percentage of void volume is not critical (at **2**:34-38). If 95 percent void volume is suitable, as specifically mentioned in Dugan (at **2**:34-38), then 10 to 75 percent void volume would reduce the water capacity of the filler and also allow for less debris to enter the filler voids.

Therefore, one of ordinary skill in the art of hydrology, at the time the invention was made would have recognized that void volume affects water capacity, and reducing the void volume would allow less debris to enter the voids in the filler, and inherently reduce the water capacity.

The "reticulated filler" of Dugan meets the claimed "elongated" pores because the foam filler includes a plurality of passages through which the water flows. Further, the claim dos not limit or define the direction of elongation. The claimed "lengthwise" direction of the filler material pores does not structurally define over Dugan which includes a filler material that is foam and intended to serve the purpose of filtering rainwater captured in a gutter. Dugan mentions various configurations of the filler material including those that fit the gutter and those that are compressed within the gutter. As noted by applicant, an inherent property of random or reticulated foam is that compression does not affect pore size (at **15**:13-15). Moreover, it is inherent that the randomized nature of the Dugan foam includes lengthwise pores and includes pores extending in the rain flow direction, i.e., (i) downward due to gravity and the downward

force of the rain on the filler, (ii) horizontally due to the confines of the gutter beneath the filler and capillary action, and (iii) through the passages that are formed in the reticulated filler.

The claims do not structurally define over the Dugan filler as modified above.

Claim 11: The claimed process has been interpreted as the steps being performed in the order recited. The particular filler material is discussed with regard to claim 1 above. As for the method, Dugan discloses the process steps of providing a roof gutter and fitting the gutter with a filler material (1:37-38, 57-58). Dugan does not expressly mention whether the gutter mounted to a building. The examiner takes Official notice that it is well known in the roofing field of endeavor to provide a mounted gutter before installing appurtenances thereto, i.e., a filter, screen, cover, downspout strainer, etc. The process ensures that the gutter is properly and securely mounted to the building prior to adding any appurtenance thereby ensuring a clear or unobstructed view of the gutter mounting means and/or seam areas during mounting of the gutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dugan to include the step of providing a gutter mounted on a building before inserting the filler, in order to ensure a clear or unobstructed view of the mounting means and/or seams of the gutter when the gutter is mounted.

4. Claims 2-4, 6-8, 12-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dugan (US-3855132) as applied to claims 1 and 11, respectively, in view of Marmon (US-6200669).

Claim 2: Marmon teaches a multi-component material (e.g., 1:12-13).

Claim 3: Marmon teaches material comprising hollow fibers (e.g., 7:1-7).

Claim 4: Marmon teaches staple fibers having a denier of 15 or less (e.g., **3**:57 to **4**:4).

Claim 6: Marmon teaches a polyolefin fiber (e.g., **7**:64 to **8**:2).

Claim 7: Marmon teaches sheath/core fibers comprising sheaths that melt at a temperature lower than the core (e.g., **4**:54-58, through-air bonding including melting one of the polymers of a bicomponent fiber web).

Claim 8: Marmon teaches a web of fiber formed by spunbond (e.g., **7**:44-47).

Marmon discloses the use of the above noted materials in nonwoven web fabrics that retain their characteristics during entangling. The particular type of filler material used would have been dependent upon the desired result of adequate water capacity and flow as well as preventing debris from entering the gutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the filler material of Dugan to include the Marmon material, as mentioned above, in order to provide a material that retains its characteristics and that adequately removes the desired waste or debris from the liquid or rainwater.

Claims 12-14 and 16-18: The claimed process has been interpreted as the steps being performed in the order recited. The particular filler material is discussed with regard to claims 2-4 and 6-8 above. As for the method, Dugan discloses the process steps of providing a roof gutter and fitting the gutter with a filler material (**1**:37-38, 57-58). Dugan does not expressly mention whether the gutter mounted to a building. The examiner takes Official notice that it is well known in the roofing field of endeavor to provide a mounted gutter before inserting appurtenances, i.e., a filter, screen, cover, downspout strainer, etc., in the gutter in order to ensure that the gutter is properly and securely mounted to the building prior to adding any appurtenance thereby ensuring a clear or unobstructed view of the gutter mounting means and/or seam areas during mounting of the gutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Dugan and Marmon to include the step of providing a gutter mounted on a building before inserting the filler, in order to ensure a clear or unobstructed view of the mounting means and/or seams of the gutter when the gutter is mounted.

5. Claims 5, 9, 10, 15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dugan (US-3855132) as applied to claims 1 and 11, respectively, in view of Schilling (US-5776567).

Claim 5: Schilling teaches a first layer netting comprising two sublayers (**2**:54-56). The thickness of the first layer is 0.2 inches (**2**:63-65). Converting the thickness to denier, at least one of the two layers is inherently of a denier greater than 15.

Claim 9: Schilling teaches a non-fibrous element in the form of a polymeric netting (**3**:21-23; 304, 306).

Claim 10: Schilling teaches woven material (e.g., **3**:42-44).

Schilling discloses the use of the above noted materials used in a manner having a thickness and density in accordance with the desired separation of solid from a liquid.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the filler material of Dugan to include the Schilling material, as mentioned above, in order to adequately remove the desired waste or debris from the liquid or rainwater.

Claims 15, 19 and 20: The claimed process has been interpreted as the steps being performed in the order recited. The particular filler material is discussed with regard to claims 5, 9 and 10 above. As for the method, Dugan discloses the process steps of providing a roof gutter and fitting the gutter with a filler material (**1**:37-38, 57-58).

Dugan does not expressly mention whether the gutter mounted to a building. The examiner takes Official notice that it is well known in the roofing field of endeavor to provide a mounted gutter before inserting appurtenances, i.e., a filter, screen, cover, downspout strainer, etc., in the gutter in order to ensure that the gutter is properly and securely mounted to the building prior to adding any appurtenance thereby ensuring a clear or unobstructed view of the gutter mounting means and/or seam areas during mounting of the gutter.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Dugan and Schilling to include the step of providing a gutter mounted on a building before inserting the filler, in order to ensure a clear or unobstructed view of the mounting means and/or seams of the gutter when the gutter is mounted.

Response to Arguments

6. Applicant's argument, see heading II on pages 10-12 of the communication filed 27 October 2006, with respect to claims 5 and 15 have been fully considered and are persuasive. The rejection of claims 5 and 15 under 35 U.S.C. 112, second paragraph, has been withdrawn.

7. Applicant's arguments filed 27 October 2006 have been fully considered but they are not persuasive.

Dugan does not disclose, teach, or suggest
pores elongated in a lengthwise direction of the porous filler material
or
pores generally extending in the rain flow direction within the gutter

In response to the argument, Dugan explicitly mentions (1:60-64) that porous foam filler material that is within the gutter and that water from the roof falls into the foam and is "gravity fed through the foam in a vertical direction and along the gutter in a horizontal direction." This is a disclosure, teaching, or suggestion of elongated pores in the lengthwise direction and in the rain flow direction. The claimed "lengthwise direction" is broad. First, the claimed elongation of the pores is not related to any particular dimension of the pores, i.e., diameter/radius or length, but rather is related to the orientation of the filler material. Second, the pores extending in the lengthwise direction of the filler material is met by Dugan as applied under 35 U.S.C. 103 insofar as the gutter is sloped toward a downspout and the angle of the gutter inherently feeds the rainwater toward the downspout, i.e., lengthwise. The claimed "rain flow direction" is broad and not limited to any particular direction relative to the filler material but rather the direction that water is flowing through the filler material as induced by gravity. Insofar as Dugan allows water to flow through its filler material, the limitations have been met. Further, the level of skill in the hydrology field is such that the noted suggestions are sufficient to modify the Dugan filler material as discussed in detail in the rejection of claims 1 and 11 above. Dugan mentions that debris is trapped on the surface of the filler.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamara L. Graysay whose telephone number is 571-272-6728. The examiner can normally be reached on Mon - Fri from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Dunn, can be reached on 571-272-6670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamara L. Graysay
Examiner
Art Unit 3636

20070118